Jan. 28, 1958 E. K. WELSH ET AL 2,820,971

SUBMERGED OBJECT MARKER

Filed July 9, 1956

Fig. 1

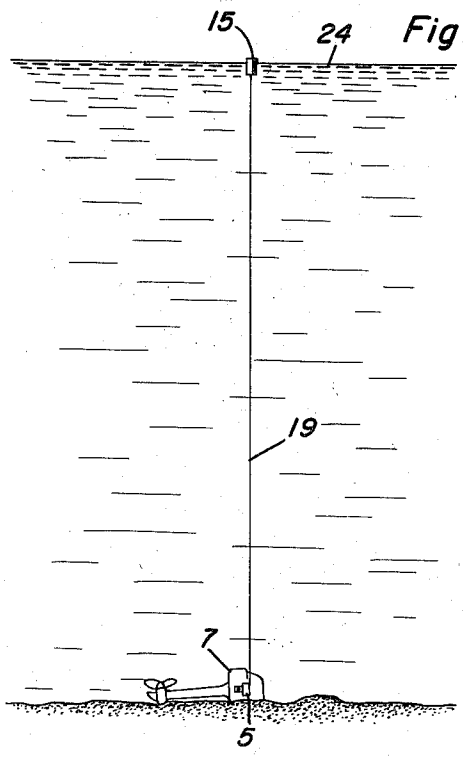


Fig. 3

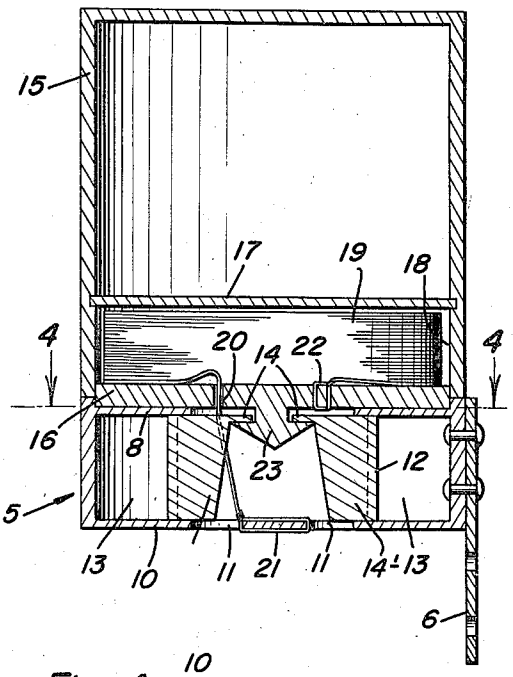


Fig. 2

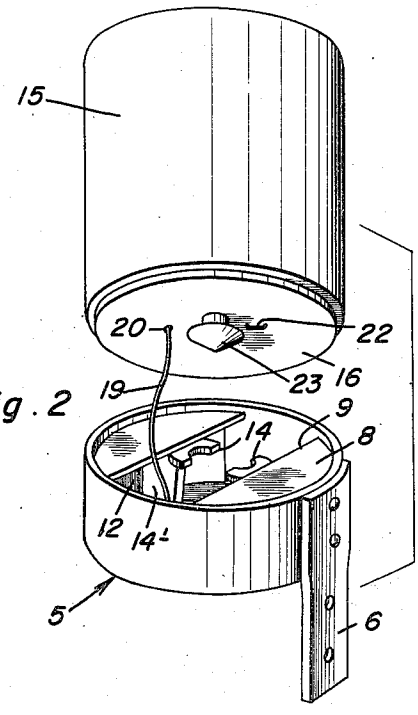
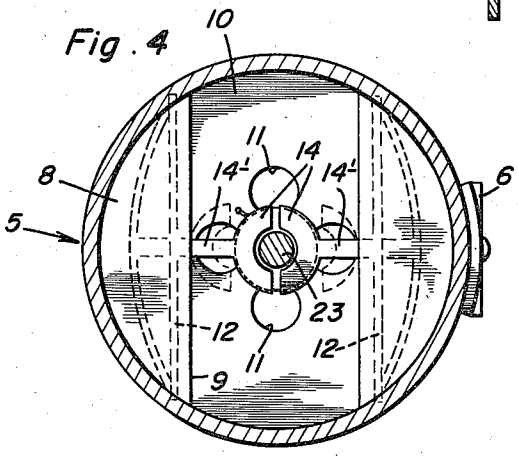


Fig. 4



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SUBMERGED OBJECT MARKER

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3 Claims. (Cl. 9—9)

The present invention relates to new and useful improvements in markers or location indicators for submerged objects such, for instance, as outboard motors and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character adapted to be mounted on the object and comprising a float or buoy which will automatically rise to the surface of the water when said object sinks therein.

Another very important object of the invention is to provide a marker or indicator of the aforementioned character comprising novel means, operable by the pressure of the water, for releasing the float or buoy from the submerged motor or other object.

Other objects of the invention are to provide a marker of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use and which may be manufactured at low cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is an elevational view, showing a marker embodying the present invention in use;

Figure 2 is a perspective view of the device, showing the base and the float separated;

Figure 3 is a view in vertical section through the device; and,

Figure 4 is a view in horizontal section, taken substantially on the line 4—4 of Figure 3.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a cylindrical base 5 of suitable material and dimensions. The base 5 has secured thereon a suitable bracket 6 for mounting said base on an outboard motor or other object 7.

The base 5 includes a recessed or depressed top 8 having an opening 9 extending diametrically thereacross. The base 5 further includes a bottom 10 having formed therein a plurality of water inlet openings 11.

A pair of elongated, spaced, parallel diaphragms 12 are mounted in the base 5 on opposite sides of the opening 9, said diaphragms defining air chambers 13 in said base. Vertical flanges 14' are formed integrally with the diaphragms 12 at intermediate points. Substantially semicircular keepers 14 project horizontally from the upper portions of the flanges 14'.

Removably mounted on the base 5 is a cylindrical buoy or float 15. The float 15 includes a depending bottom 16 which is engageable in the recessed head or top of the base 5. Thus, the float 15 is nested in the base 5, as shown to advantage in Figure 3 of the drawing.

The float 15 further includes in its lower portion, a horizontal partition 17 providing a chamber or compartment 18 for the reception of a line 19 of suitable material. One end portion of the line 19 is threaded through

an opening 20 provided therefor in the bottom 16 of the float 15 and is anchored, as indicated at 21, to the bottom 10 of the base 5. The other end of the line 19 is anchored, as at 22, to the bottom 16 of the float 15.

Depending from the bottom 16 of the float 15 is a conically headed shank or stud 23 which is engageable in the base 5 through the opening 9 in the top 8 of said base.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. Briefly, the base 5 is mounted on the outboard motor 7, for instance, and the float 15, with the line 19 in the compartment or chamber 18, is secured on said base. The diaphragms 12 are normally straight or flat. To mount the float 15 on the base 5, the conical stud 23 is forced between the arcuate keepers 14 in an obvious manner. Now, should the outboard motor 7 be submerged with the marker mounted thereon, water enters the base 5 through the openings 11 and the pressure of said water flexes the diaphragms 12 into the chambers 13 thus disengaging the keepers 14 from the headed stud 23. In this manner, the float 15 is released and immediately rises to the surface of the water, the line 19 paying out of the chamber or compartment 18 through the opening 20. Of course, the float 15 on the surface of the water, as at 24, indicates the location of the outboard motor 7 and facilitates the recovery of said motor. The bottom 16 of the float 15 is removable to permit the line 19 to be replaced in the chamber or compartment 18 for reusing the device.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A submerged object marker of the character described comprising: a base to be mounted on the object, a float removably mounted on said base, a flexible line enclosed in the float and having one end anchored thereto and its other end anchored to the base, and means operable by water pressure for detachably anchoring the float to the base, said means including a stud on the float, spaced diaphragms in the base for receiving water therebetween and operable thereby, and opposed keepers on said diaphragms engageable with the stud.

2. A submerged object marker of the character described comprising: a cylindrical base for mounting on the object, said base including a top having an opening therein, a substantially cylindrical float removably mounted on the base and including a compartment in its lower portion, a length of flexible line in the compartment having one end anchored to the float and its other end anchored to the base, said base further including a bottom having water inlet openings therein, and means for releasably anchoring the float to the base, said means including a stud comprising a substantially conical head engageable in the base through the first-named opening, said stud depending from said float, a pair of spaced, opposed diaphragms in the base on opposite sides of the first-named opening and adapted to receive water therebetween through the second-named openings, and a pair of opposed keepers on the diaphragms engageable with the stud, said diaphragms being operable by the pressure of the water therebetween for disengaging the keepers from the stud.

3. A submerged object marker comprising: a base mounted on the object, a pair of spaced opposed dia-

phragms in said base for the reception of the water therebetween, a float mounted on the base, means on the diaphragms releasably securing said float to the base, said diaphragms being operable by the pressure of the water for releasing the float, and a flexible line connecting the float to the base.

References Cited in the file of this patent

UNITED STATES PATENTS

1,358,466	Rey	Nov. 9, 1920
2,569,977	Dickinson	Oct. 2, 1951
2,752,615	Parker	July 3, 1956